

**Recommendation 6:** Provide each refuge with access to resources to fully implement the principles of adaptive management.

Overview: Resource management must be based on strong and integrated use of adaptive management and science-based decision-making. The National Wildlife Refuge System (NWRS) will improve conservation delivery by defining the geographical and temporal scope of resource issues and objectives, by comparing competing management models, and by monitoring and adapting to achieve management objectives. Recommended future actions include investing in capacity; proactively implementing adaptive management; identifying, understanding, and responding to resource threats; fulfilling a conservation demonstration role; establishing improved forums for scientific communication and collaboration; and building accountability at multiple program levels. For the purposes of this work plan, adaptive management is a form of structured decision-making where the process of adaptive management (plan, do, and learn) is made transparent and explicit through the use of structured decision-making tools.

Deliverable 1: Adaptive Management Handbook.

- *Description:* Produce an Adaptive Management Handbook with a dynamic website that provides synthesis on use of adaptive management, relevant definitions, and guidance on implementing adaptive management with examples. The handbook will provide guidance regarding very basic adaptive management to the collection of robust, quantitative data designed to update competing management models.
- *Approach:* Convene a subteam that will also encompass Deliverable #2 for Recommendation 9. A synthesis for past use of adaptive management will be prepared. This will be followed by guidance for successful implementation of structured decision making and adaptive management. A dynamic website will be developed that can link to the projects database identified in Recommendation 9 (Deliverable #2). The subteam will also establish expectations and guidance on establishing Regional Adaptive Management teams. LEAD: subteam.
- *Major Milestones:* Subteam convened by 4/2012. Guidance and goals synthesized for structured decision making and adaptive management by 12/2012; dynamic website developed by 12/2014; expectations and guidance on establishing Regional Adaptive Management teams drafted by 12/2012.
- *Coordination Need:* Recommendation 9 subteam(s), External Affairs.
- *Success and Evaluation:* We can track through year-end reporting of adaptive management implementation, effectiveness, and specific project details.

Deliverable 2: Data Management System.

- *Description:* The management system will track information needs and refuge management actions, increasing the NWRS' effectiveness in selecting and implementing projects and management practices that improve efficiency and reduce uncertainty through adaptive

management. This system will prioritize issues at geospatial scales from single refuge to System wide and define the Fish and Wildlife Service's (FWS) role among other collaborators. Information needs will be derived from Comprehensive Conservation Plans, Habitat Management Plans, Inventory and Monitoring Plans, State Wildlife Action Plans, and other sources.

- *Approach:* The Science Team will coordinate with the subteam from Recommendation 9 (Deliverable #2) to include refuges' highest priority research management needs. The team will investigate the following databases: RLGIS (Refuge Lands Geographic Information System), RMAD (Refuge Management Action Database), RHMD (Refuge Habitat Management Database), and SHRIMP (Species Habitat Relationship Information Management Program). All actions will consider the landscape and continental scales. LEAD: subteam.
- *Major Milestones:* Data management system operational by 12/2014; feedback by users provided by 12/2015; data management system improved per user feedback by 12/2016.
- *Coordination Need:* Subteams for Recommendations 7 and 9 (Deliverable #2).
- *Success and Evaluation:* A successful management system can be evaluated by assessing the management system's usage by the NWRS and by quantifying the number of adaptive management projects implemented within the NWRS at the local and landscape scale.

#### Deliverable 3: Adaptive Management Action Plan.

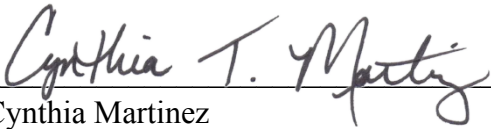
- *Description:* Action plan to address Structured Decision Making and Adaptive Management capacity, as part of the scientific workforce assessment and development plan. Implementation of this plan will increase knowledge of adaptive management and its effective implementation at the local and landscape level through training and sharing of knowledge across the NWRS and scientific community. This plan identifies skill sets and tools needed to implement structured decision making and adaptive management in the FWS through workforce planning, recruitment, training, and contracting for software and tools needed to implement.
- *Approach:* See Recommendation 10 (Deliverable #1). LEAD: subteam.
- *Major Milestones:* See Recommendation 10 (Deliverable #1).
- *Success and Evaluation:* Success can be evaluated by year-end reporting of adaptive management implementation on refuges.

#### For Deliverables 1, 2, and 3:

- *Communications:* Communication with subteam from Recommendations 7, 9, and 10 and at multiple levels of the FWS and stakeholders at key delivery points in time.
- *Overall Success and Evaluation:* We will know are successful if:
  - a) Management actions are guided by the principles of adaptive management, concentrated on landscape/regional priorities, and are more efficient.

- b) A successful management tracking system will increase communication among interested parties and enable objective prioritization of projects/management practices.
- c) A successful action plan will provide staff with skill sets and tools to implement adaptive management and structured decision-making and will empower refuge employees to implement adaptive management projects on landscape/regional levels.

**Executive Implementation Council Approval:**

  
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U.S. Fish and Wildlife Service

APR 30 2012  
Date